

Express Mail Label No.
EK104664621US

METHOD FOR USING BANNER ADVERTISEMENTS
DURING COMMERCIAL BREAKS

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Background of the Invention

Present techniques for providing television commercials have several weaknesses.

1. During television commercials, viewers very often change channels. Unfortunately, this means that the advertiser who is paying to provide the commercials loses its ability to try to sell products to the viewer. This also provides a disadvantage to the viewer, because the program may resume while he is watching something else on the video screen.
2. Commercials use 100% of the television screen space. This means that commercials can only be shown as interruptions of a TV program. The total time duration of such interruptions are regulated. This defines a potential cap on advertisement revenue.
3. The viewer cannot choose to avoid viewing commercials unless he or she changes the channel, in which case he or she may miss portions of the main program. Television viewers consider commercials to be an unavoidable payment for watching television programs. It would be desirable to provide a video system in which the advertiser can still appeal to viewers, while permitting viewers to change channels or use their video systems for other purposes, e.g. web surfing or any other unrelated viewing.

1 Summary

2 A video system in accordance with one embodiment of the invention permits an
3 advertiser to provide advertisements in the form of a window or banner on a television
4 screen. In one embodiment, unlike conventional television commercials, the window or
5 banner can be present during a main program. Also, in one embodiment, unlike
6 conventional television commercials, the banner or window can be provided on the
7 viewer's television screen even if the viewer changes the channel or uses his television
8 screen to perform other tasks, e.g. web browse. Accordingly, rather than losing the
9 viewer completely, the advertiser can continue to try to appeal to the viewer. Also, while
10 browsing, the viewer can follow what is occurring during the broadcast so that he or she
11 knows when the commercials are over.

12 In one embodiment, a special timed banner advertisement can be placed on a
13 regular web page, thus gaining advertising space, and notifying the viewer when the
14 normal program resumes. This notification can be provided in a special field, e.g. in the
15 form of a countdown indicating when the normal program is to resume.

16 In accordance with another aspect of the invention, one or more advertisement
17 windows (typically small windows) are shown on the video screen during a main
18 program. In one embodiment, the location and appearance of these windows can be
19 controlled by the viewer, e.g. using remote control. Thus, the video system of this
20 embodiment permits a broadcaster (or other video data owner) to generate additional
21 revenue for the advertiser by adding commercial material during the main program time.
22 This is in contrast to presently existing commercials, which occupy the entire television
23 screen, and therefore can only be shown during commercial breaks.

1 A video system in accordance with another embodiment of the invention includes
2 a "no overlapping mechanism, during which commercial windows are automatically
3 closed so that a regular full-screen commercial can be shown.

4 In accordance with another aspect of the invention, information is communicated
5 to the broadcaster indicating whether the viewer continues to leave the above-mentioned
6 banners or small windows open on the screen. This information can be sent back to the
7 broadcaster via a wide area network ("WAN") to which the video system is connected.
8 (The WAN can be the internet.) The broadcaster maintains a file that tracks this
9 information. The viewer can be compensated for displaying the advertisement windows
10 on top of the main program. This compensation can be in the form of money or discounts
11 for products purchased from the advertiser. This compensation can be used to entice
12 viewers to watch commercials that they would otherwise avoid.

13 In addition to gathering data concerning the turning on and off of commercial
14 banners by viewers, a video system in accordance with the invention permits a
15 broadcaster to gather statistical data about main program popularity.

16 In one embodiment, the video system of the present invention is assigned an
17 electronic address. The broadcaster can direct certain advertising banners to specific
18 video systems by communicating the banners to systems having specific addresses. In
19 one example of this embodiment, the broadcaster can direct advertising banners to video
20 systems known to be in a particular geographic location, e.g. a particular town. Thus, a
21 video system in accordance with this embodiment permits the broadcaster to provide
22 advertisements in small localities, e.g. a particular neighborhood. This permits small
23 businesses to buy advertising time during television programs that would otherwise be

1 uneconomical and poorly targeted to the advertiser's potential customers. This also
2 permits the broadcaster to increase its advertising revenue by permitting many different
3 small or local businesses to advertise during broadcasts. In particular, each business can
4 provide advertisements to a different locality during a television program. Thus, small
5 businesses, (rather than larger companies) can afford to advertise during broadcasts.

6 A video system in accordance with the invention also permits an advertiser to
7 design special commercials targeted for customers with specific interests. Thus, if the
8 broadcaster has a database indicating certain preferences of viewers, the broadcaster can
9 provide advertising banners to specific video systems known to be owned by people
10 having specific interests, e.g. an interest in certain sports, types of food or certain types of
11 cultural events.

12 13 Brief Description of the Drawings

14 Fig. 1 illustrates a video screen displaying information with first and second
15 overlay windows for displaying information relating to a video broadcast.

16 Fig. 2 is a block diagram illustrating a video system in accordance with the
17 invention.

18 Fig. 3 is a simplified block diagram of a broadcast system in accordance with the
19 present invention, showing an exemplary set up for timing the overlays.

20 21 Detailed Description

22 Referring to Fig. 1, a video system 1 comprises a video screen 2 that displays
23 video information. Screen 2 can be a CRT screen, a LCD screen, a video projection

1 screen, or other type of screen capable of displaying a visual image. In one embodiment,
2 the video screen can operate in a mode in which it displays a conventional television
3 program, either obtained from an antenna 3, a cable 4 or a satellite dish 5. The television
4 program can be broadcast using NTSC, PAL, SECAM, or other analog or digital
5 television picture communication standard, including but not limited to such as the newly
6 emerging HDTV standards.

7 From time to time, commercials are inserted into the television broadcast, and
8 many viewers use this as an opportunity to switch channels, or use the video system for
9 other purposes, e.g. to surf the internet or watch video information from another source.
10 However, viewers frequently want to know when the commercials are over.
11 Accordingly, video system 1 displays a banner 6 providing an indication of what is being
12 broadcast. For example, if a commercial for a product is being broadcast, banner 6
13 reflects or contains information pertaining to that product. This accomplishes two
14 purposes. First, the viewer has an indication of when the commercial is over. When the
15 commercial terminates, he can change back to the program he was viewing. Second,
16 although the viewer is no longer watching the full commercial, the advertiser can still
17 advertise its message to the viewer within banner 6. Additionally, the sound of both
18 contents may be mixed to allow the user to follow both, or alternatively, the user can
19 select which sound to hear.

20 Frequently, one commercial in a video broadcast is followed by another
21 commercial. Accordingly, as the commercials change, banner 6 changes to reflect the
22 currently broadcast commercial. Thus, each advertiser sponsoring a portion of the
23 broadcast will be able to use banner 6 to advertise its products or services.

1 In one embodiment, banner 6 is associated with a link. In other words, a user can
2 click on banner 6, and this will cause the video system to invoke that link. In one
3 embodiment, the link is to an internet web page. In another embodiment, the link is to a
4 source of information other than an internet web page. For example, the link can be to a
5 page of data provided to video system 1 by the broadcaster of the program. In another
6 embodiment, clicking on the banner will cause video system 1 to revert back to the video
7 program.

8 The image contained in banner 6 is typically provided as part of the television
9 broadcast signal received by video system 1. Data corresponding to banner 6 can be
10 inserted into a portion of the television signal not otherwise used, e.g. one of the retrace
11 or blanking intervals. Since banner 6 is does not display large moving video images, the
12 bandwidth requirements for broadcasting banner 6 are minimal.

13 In one embodiment, the location and size of the banner on the video screen is also
14 communicated to video system 1 as part of the video signal. However, in other
15 embodiments, the location and size of the banner is not communicated as part of the
16 video signal.

17 As mentioned above, typically banner 6 is associated with a link, e.g. a URL link
18 to a web page. Thus, if the advertisement associated with the banner is actually of
19 interest to a viewer, he or she can click on the banner. The link information (i.e. the web
20 page URL) can also be communicated as part of the video signal, e.g. during one of the
21 retrace or blanking intervals of the video signal. The web page can contain further details
22 concerning goods and services being advertised, or even permit the user to purchase the
23 goods and services while accessing the web page. In lieu of a URL link, the link can be

1 to a software routine that executes a function, e.g. dialing a telephone to enable a viewer
2 to order merchandise or some other task.

3 The banner and link information can be updated from time to time, e.g. as the
4 commercials change.

5 Also shown on screen 2 is a cursor 8. Cursor 8 can be any shape, or have any
6 appearance. A user manipulates cursor 8 with a control device, e.g. a remote controller
7 10 comprising a joystick, trackball, mouse, touch pad (e.g. touch pad 11a) or appropriate
8 control buttons 11b. If a user moves cursor 8 to banner 6, a link is invoked
9 corresponding to banner 6. In one embodiment, the link is to a web page. Moving the
10 cursor to banner 6 invokes the link, and information corresponding to the web page is
11 displayed on screen 2. (In an alternative embodiment, one must move cursor 8 to banner
12 6 and click on banner 6 to invoke the link, rather than merely moving cursor 8 to banner
13 6.)

14 In another embodiment, the link is to a data source other than a web page. This
15 data source could be another source of visual information, e.g. another movie or
16 television program, e.g. being broadcast from a RF or cable source. Alternatively, the
17 link could execute application software. Alternatively, the link could result in the display
18 of data from a local data source, e.g. a disk drive, or a non-local data source.

a 19 In one embodiment, a second banner ¹³~~10~~ is provided on video screen 2 that
20 provides a count indicating how long it will be before the commercial is over. This
21 enables a viewer to determine what tasks he or she has time to perform before
a 22 programming resumes. The information in second banner ¹³~~10~~ is communicated, e.g.
23 during one of the above-mentioned retrace or blanking intervals of the television signal.

a 1 In one embodiment, the time shown in banner ¹³~~10~~₁ is updated from time to time by the
2 broadcaster. In another embodiment, an initial time is provided to video system 1, and a
3 processor within video system 1 counts down from an initial time communicated as part
4 of the video signal.

a 5 Also shown in Fig. 1 is a third banner ¹⁴~~11~~₁. For the case of a sporting event, third
b 6 banner ¹⁴~~11~~₁ can be game statistics, e.g. the score of a sporting event or other statistics. For
7 example, for the case of a football game, the statistics might be the position of a ball on a
8 football field, the amount of time left in a quarter, etc.

9 While the above-mentioned set of banners can be provided during a commercial,
10 in an alternate embodiment, the banners can be provided during different types of
11 programming intervals. For example, during half time a football game, or between
12 periods in an ice hockey game, a viewer may want to web surf or change channels. The
13 above-mentioned banners can keep the viewer apprised of what is being shown in the
14 main broadcast, so he or she can return to the main broadcast if the half time show is
15 over, or some other interesting event is about to commence.

16 When web surfing, the viewer can choose to look at web pages that are related or
17 unrelated to the program being watched. If the viewer clicks on the advertising banner,
18 in one embodiment, he is directed toward a web page of one or more local merchants,
19 offering products or services such as pizza delivery. Alternatively, the viewer can be
20 directed toward web pages offering products and services of particular interest viewers of
21 the main program, such as NFL clothing and NFL memorabilia.

22 To partially summarize, a method in accordance with our invention allows a
23 broadcaster to provide advertisements and services even if a viewer changes the channel

1 or uses his or her video screen for other purposes. This is accomplished by means of the
2 above-mentioned banner or window that provides those advertisements and links for
3 accessing more information concerning the advertised goods and services, or links which
4 permit the user to purchase those goods and services. In one embodiment, it is left to the
5 viewer if he allows the users to turn off those banners or not.

6 In one embodiment, banner 6 does not contain any moving images. Alternatively,
7 in lieu of a simple banner, a "thumbnail" commercial (i.e. a commercial in a small
8 window region on the screen) may be shown. In yet another embodiment, several small
9 advertising banners can be shown on screen 2. In yet another embodiment, banner 6 can
10 be divided into a set of segments, each segment bearing a symbol that can be clicked on.
11 For example, one symbol might represent a pizza, and a user could click on that symbol
12 to order a pizza from a local vendor, whereas another segment might link the user to a
13 page listing times for other television programs to be shown.

15 Description of One Embodiment of Video System 1

16 One embodiment of our invention can be practiced using a PC having the
17 following:

- 18 1. A CPU such as a Celeron or Pentium, e.g. as manufactured by Intel, or a K6/K7
19 processor, e.g. as manufactured by Advanced Micro Devices.
- 20 2. 24 MB of memory or greater.
- 21 3. The operating system can be Windows 95, Windows 98, WinCE or Win2000.

22 Fig. 2 is a block diagram of a computer system 50 within video system 1 in
23 accordance with our invention. Referring to Fig. 2, system 50 comprises a CPU 52, e.g. a

1 Pentium II class CPU, comprising a cache memory 52a, a core 52b and an internal bus
2 52c for facilitating communication between core 52b and cache 52a. Core 52b
3 communicates via a CPU bus 54 to a system controller 56. System controller 56
4 communicates with the system memory 58 via a memory bus 60. System memory 58
5 includes a portion that stores system memory programs.

6 Also included in system 50 is a PCI bus 62 for facilitating communication
7 between system controller 56 and I/O devices 64, 66 and disk drive 68. I/O device 64
8 can be any type of I/O device. In one embodiment, I/O device 66 is a video capture card
9 with a driver. Data from the video capture card is either loaded by DMA (direct memory
10 access) or by CPU 52 into a frame buffer, typically within main memory 58. However,
11 the frame buffer may be in other memories within system 50.

12 Graphics controller 70 uses its own local memory 74 to generate and store pixel
13 arrays to be displayed on a video display unit 76.

14 It is emphasized that system 50 is only one example of a system that performs a
15 method in accordance with our invention. Other hardware can be used as well.

16 Stored within a memory within video display system 1 are the locations on screen
17 2 of banner 6. CPU 52 (or other logic hardware within system 1) determines whether
18 cursor 8 has been moved to banner 6, i.e. by comparing the position of cursor 8 to the
19 values stored in memory corresponding to the location of banner 6. (This memory can be
20 memory 58 or another memory within the system.)

21

1 Description of the Broadcast System

2 Fig 3 shows a broadcast network 109 and WAN 115 combination. Such systems
3 are well known in the art, e.g. DirectPC™ or DirectDUO™ provided by Hughes Network
4 Systems, Inc. etc. There is typically a broadcast end side 113, and a receiver side 111
5 including video system 1. Broadcast antenna 145, satellite 137 and satellite receiver
6 antenna 5 form together the broadcast system, in this case a direct satellite system, but
7 other types of broadcast systems, such as cable, RF wireless, and wireless cable (either
8 digital or analog) can be used. The signal broadcast through the system can pass through
9 different types of signal communication channels (e.g. cable, then satellite broadcasting,
10 back to cable, etc.) before being received by the end viewer. However, for purposes of
11 explanation, an embodiment in which the transmission/broadcast system 109 is a simple
12 satellite system is shown in Fig. 3. Also, WAN 115 and broadcast system 109 need not
13 be in one system, but in many cases they are actually not.

14 On the receiver side 111, the key components are broadcast receiver 121 (coupled
15 to satellite dish 5 via a cable 127), network interface (modem) 117 and PC/viewing
16 station/video system 1. Typically, the functions of these components can be partitioned
17 differently. Thus, in some embodiments, rather than using a PC as a generic building
18 block, the broadcast receiver 121, network interface 117 and PC/viewing station 119 are
19 combined into a set-top box, that uses a regular TV as a display device. Network
20 interface 117 is coupled to WAN 115, e.g. as shown schematically by line 118.

21 The two networks 115 and 124 can be of any type, such as a WAN, or in
22 particular the internet (as shown at 124). Network 115 may in some cases be a generic
23 network. In one embodiment, server 129 can insert data into the broadcast stream via its

1 link 153 to uplink server 131, or server 129 can send time sensitive signals via links 118,
2 120 and WAN 115 directly to client system 119. (Uplink server 131 provides the video
3 signal to antenna 145 via cable 155.)

4 In the above-discussed embodiment, the commercials and banners are broadcast
5 to all viewers. However, in another embodiment, specific advertising banners are
6 provided to selected viewers based, for example, on the location of the viewer. For
7 example, advertisements for a particular business may be provided only to viewers near
8 that business. This can be accomplished in any of several ways. For example, in one
9 embodiment, the banners are provided by the broadcaster via WAN 115 to viewers based
10 on the viewers' WAN address. In such an embodiment, each video system 1 has an
11 electronic address. Server 129 has a file listing the addresses of video systems within a
12 particular locality, e.g. a particular town. Thus, advertisements for a store in a particular
13 town can be directed to viewers in that town via WAN 115. A file a memory accessible
14 by server 129 lists the WAN addresses of the viewers in that town, and server 129
15 transmits banners for that store only to the viewers in that town via WAN 115. System 1
16 receives and stores the banner information and displays it on screen 2 as banner 6. Server
17 129 can also provide link addresses (e.g. URLs or other WAN addresses) associated with
18 those banners so that if the viewers click on the banner, they will be directed toward a
19 web page provided by that store.

20 In an alternate embodiment, server 129 can have a database indicating specific
21 interests of different viewers and the address of their video system 1. In this alternate
22 embodiment, server 129 broadcasts to a specific set of addresses advertising information
23 that is expected to be of interest to viewers at those addresses. For example, if the

1 database accessed by server 129 indicates that a certain set of viewers are interested in
2 football, server 129 provides banner advertisements that would be of interest to football
3 fans. If the database indicates that another set of viewers are interested in movies server
4 129 provides banner advertisements that would be of interest to movie fans.

5 In an alternative embodiment, information concerning banner 6 is broadcast via
6 satellite 137 to all viewers along with address information indicating which viewing
7 systems should display that particular banner.

8 As mentioned above, in one embodiment, banner 6 is turned off at certain times to
9 permit the showing of a full screen commercial (or for other purposes). This can be
10 accomplished in one of several ways. For example, the broadcast system can simply
11 cease sending a signal containing banner 6. Alternatively, the broadcast system can send
12 a signal (either embedded within the video signal provided by satellite 137 or via WAN
13 115) instructing video system 1 to turn off banner 6.

14 As mentioned above, in one embodiment the viewer has the option of turning
15 advertising banner 6 on or off. In one version of this embodiment, system 1
16 communicates to server 129 via WAN 115 whether or not a given viewer is keeping
17 banner 6 on. Server 129 keeps track of this information. A broadcaster or advertiser can
18 encourage viewers to keep the banners on by offering various enticements or forms of
19 compensation to viewers who keep banner 6 on. One type of enticement might be
20 monetary, e.g. in the form of payments to the viewer, discounts if the viewer purchases
21 items advertised by video system 1, or discounts in the viewers cable TV subscription.

22 While the invention has been described with respect to specific embodiments,
23 those skilled in the art will appreciate that changes can be made in form and detail

